Appendix A: REFERENCE DOCUMENTS

Date	Author	Document Title & Description
February 2012	Town of Amherst	Request for quotes & outline of requirements for this Feasibility Study
January 2012	Town of Amherst – Leisure Services & Supplementary Education (LSSE) and Housing Partnership/ Fair Housing Committee	Hawthorne Meadow Recommendations This was a study commissioned by the Town following votes of Town Meeting and Community Preservation Committee to acquire and fund the former Hawthorne Farm.
January 2011	Town of Amherst – Tree Warden	Trees near the house
July 2010	New England Environmental – Lyons Whitten, principal author	Level I Environmental Site Assessment Report
July 2010	Teagno Construction – Michael Fitzgerald, principal author	Assessment of building existing conditions

Study Team:

Architects:
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Bonnie Parsons

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FCM Smart Build Inc.
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Northampton MA

Appendix B —

Report on existing structural conditions and structural capacity prepared by Ryan Hellwig PE

• RYAN S. HELLWIG, PE • STRUCTURAL ENGINEER •

May 8, 2012

Coldham&Hartman Architects, LLC
49 S. Pleasant Street
Suite 301
Amherst MA 01002

Re: Hawthorne Meadow Farm
235 East Pleasant Street
Amherst, MA

GENERAL DESCRIPTION

The farmhouse is a two-story building of approximately 800 sq. ft. per floor. There is a full basement and attic as well. Attached to the back is a one story summer kitchen addition, also called an "ell", and behind that is a garage. There are also a separate barn and paddock.

The main house is an old timber-framed structure. The roof frame is fully visible in the attic. The rafters are 3 x 3 softwood lumber spaced at 32 to 34 inches on center. The rafters run at about a 40 deg. slope from eave to the ridge. Roughly half-way up the roof, the span of the rafters is braced by 7x5 purlins. These purlins have mortises cut in certain locations that suggest that they were recycled from some other building.

The roof frame is divided into three unequal bays of about 15 ft + 9 ft. + 15 ft. The bays are delineated by two interior sets of 5x7 principal rafters, which support the purlins. These principal rafters appear to be tied into the roof beams in the attic floor, forming a simple triangular truss.

The 2nd floor frame has the same 15-9-15 layout as the roof. The outline of the frame is essentially visible in the corners of the ceilings in the 1st floor, although the beams are trimmed with painted pine boards. Some probing revealed a 3-tier system: 3" x 4" softwood joists spaced at 21" on center, mortised into a 12x8 carrying beam running down the center of the house, and in turned mortised into 8x12 girders spanning across the house. The beam and girder have the look of E. White Pine, which is common for timbers of those sizes.

There appear to be no interior posts for the frame. The only posts that are visible are in the exterior walls, in the 15+9+15 pattern. More probing revealed 8x8 corner posts with knee-braces between them and the perimeter beams of the 2nd floor frame.

The 1st floor layout has three equal bays, so that the interior posts do not line up with the girders above. The floor is built with flattened log joists that are about 5" in diameter. The joists are mortised into 8x8 hewn timbers that span between the exterior walls and interior posts. In the bay closest to the street, there is a newer beam placed underneath the joists and set on light-duty

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screw posts. The sills are recycled roof beams, with tell-tale step notches for rafter seats. In that case, they may be Oak.

CONDITION ASSESSMENT

The rafters are generally in good condition. They are relatively small in section, but the spans are very short from eave to purlin and from purlin to ridge.

The ends of the purlins have been cut down severely to form tenons that fit into mortises in the principal rafters. This creates a notch effect in the purlins, which weakens the ends. In at least two locations, the grain of the purlins was such that this notching led to a split and shear failure. There is some sag in the roof, more visible from the ground outside.

What is visible in the second floor frame is generally good. However, one issue was noted: there are two interior partition walls following the 15+9+15 pattern. These walls are flush to the far side of the girder away from the connection with the interior beam, so that they are offset from the centerlines of the girders. This creates an interesting visual effect in the 1st floor rooms, making a band around the perimeter. However, the unintended consequence is that the support for the girder is on the opposite side from where the carrying beam connects to the girder, and the girder has rotated noticeably.

The 1st floor frame is in very poor condition. All of the framing has visible signs of rot. Many locations of the sills are rotten. Some of the joists have been notched severely. The floor dips noticeably in several locations, particularly in the south-west corner, which is presumably due to the rotted sill. There is a general sag towards the center of the house. I believe that this is caused by undersized footings and the mis-alignment between the bay spacing of the attic and 2nd floors relative to the 1st floor. Because the girders span the 21 ft width of the house, they deflect under load and thereby push down on the partition walls which in turn load the first floor joists.

The foundation walls are a mix of brick and granite. It is difficult to tell exactly what is original. There are signs that the basement may have been originally shallower, and may have been dug down at some time in the past. It appears that concrete was poured against the original foundation walls, which may have been a combination of brick and granite slabs. In some areas soils are visible behind that base of the concrete, and in one location the footing seemed to be visible a couple of feet above the floor. The brick walls are bowing and bulging throughout.

STRUCTURAL ANALYSIS

The common rafters, although small and far apart, have short enough spans so their stress would not be excessive under snow loading. The purlins and the principal rafters carry much greater loads, and their stresses and deflections are greater. This combines with the failed purlin ends,

and explains the visible sagging in the roof. Some reinforcement of the purlins and the principal rafters would be required.

The second floor joists are also relatively small, and also have short spans. Their load capacity exceeds residential live load requirements. The capacity of the carrying beams is slightly less, but is still able to support the required 30 psf bedroom live load. Originally the second floor was the sleeping area, and so it considered "grandfathered" by the Code. Any alterations that increase the load would forfeit the grandfathering and trigger a more detailed analysis.

The girders are not able to span clear across the building without noticeable deflection. Since the partitions are built tightly underneath, they take on the load from the girders as the latter deflect. Posts near midpsan would be necessary, and they would have to be continued down to new footings.

Calculations for the 1st floor frame are not feasible, given the amount of rot. In their original, undamaged state, the joists and beams were fully capable of carrying the loads from the 1st floor. At this point, their capacity is significantly compromised. Between the rot in the sills and the joists and beams, the floor would need to be completely rebuilt. Additional beams and posts are recommended under the walls that support the 2nd floor carrying beams.

I do not believe that the foundation walls are reliable in their present condition. They should be replaced.

MISCELLANEOUS STRUCTURES

The roof of the "ell" addition was not visible, but there is a noticeable sag in the ridgeline. The basement floor is at the same level as the basement floor in the house, but at the "ell" it is a walk-out, as grade drops alongside the house. The foundations are likely not deep enough to provide adequate frost protection. The north foundation wall is undermined, and the sill almost completely rotted away in one location. There appears to have been some significant and long-term water penetration there, as the floor beam has actually failed in that same spot.

The entire frame of the addition appears to have shifted sideways to the point were joints in the frame have come apart. Old repairs to address this movement are obvious. One section of beam has worked its way completely free of its supports. Overall, the addition settles noticeably towards the east end. This suggests inadequate foundations, so that it is partly hanging off the back of the house. To renovate the addition, most if not all of the structure would need replacement or reinforcement.

The roof structure of the garage is highly irregular, and appears to be home-made. The back wall has move outward by an alarming amount. It does not seem worth saving.

Similarly, the barn is in very poor shape. There are undersized rafters and joists, rotted sills, caved in floors, and undermined rubble foundations.

The paddock is in good condition, but re-use options may be limited for other, non-structural reasons.

SUMMARY

The barn, garage and addition are all in such bad shape that it would cost more money to save them than to tear them down and build new to better suit the proposed use.

Approximately half of the house is in good enough condition to be re-used.

1. The foundation and the 1st floor system are in very bad condition and should be completely replaced.
2. The 2nd floor joists and beams are adequate for light residential loads
3. The exterior posts and knee braces appear to be sound
4. A minimum of two interior posts should be installed under the girders.
5. Some reinforcement would be required for the purlins and principal rafters of the roof frame.

I remain at your service to provide you with further consultation on this project.

Respectfully,
Ryan S. Hellwig, PE

Massachusetts Professional Engineer #37300 - STRUCTURAL

Appendix C —

Report on the historical significant of the buildings and site prepared by Bonnie Parsons

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Hawthorne House
235 East Pleasant Street
Amherst, Massachusetts

Hawthorne House.

Description Exterior

South elevation of house and its ell

The Hawthorne House is a south-facing, two-and-a-half story house that is situated close to East Pleasant Street on its west elevation on a lot that slopes down to the east. It has a steeply-pitched, side-gable roof with a narrow center chimney. The roof has boxed eaves that do not make returns in the gable ends. The house is five bays wide on its south façade, three bays wide on its north elevation, and two bays deep on its east and west elevations. It rests on granite foundation stones.

Granite foundation stones and window at right

Siding appears to be asbestos and the roof is asphalt shingles. Attached on its east elevation is a one-and-a-half story ell that is three bays wide and one deep under a side-gable roof. It rests on fieldstone foundations. Windows in the main block of the house have 2/2 sash and exterior aluminum storm windows. The center entry on the façade is preceded by a screen porch added

in the 20th century. It has concrete block footings. The center door surround is composed of flat stock wood with a narrow molding trim around its perimeter. It is a later alteration. Window surrounds have similar molding trim.

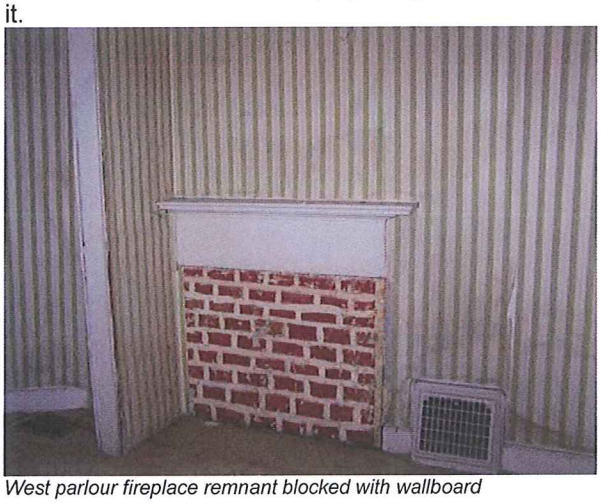
View to south west showing north and east elevations of house and ell

Description Interior

The Hawthorne House has a four-room plan with a straight-run, center stair. A center chimney was removed from the house from basement to the roofline in order to provide the center staircase. A portion of the chimney space is now occupied by a closet on the right side of the staircase.

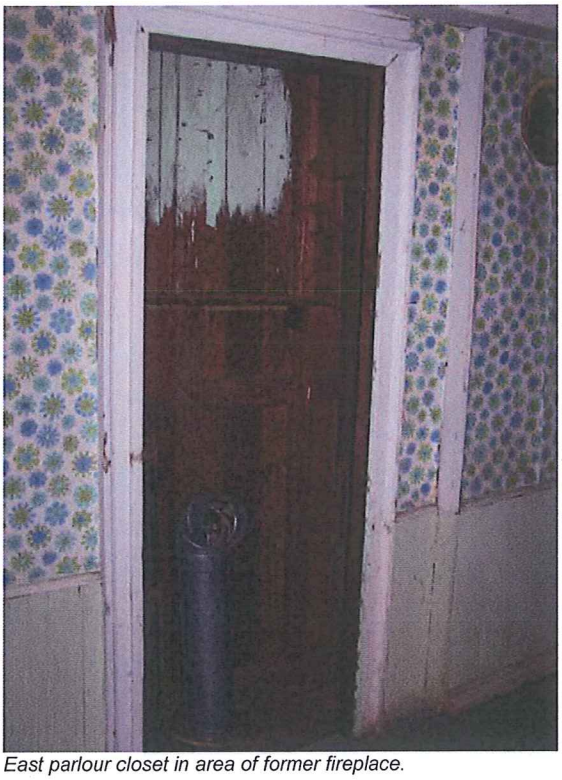
Center staircase inserted in area of original chimney

Remaining in the west parlour is a portion of a mantelpiece and an opening for the former firebox. I do not understand the wall projecting from the end of the mantelpiece, or the angled wall next to it.



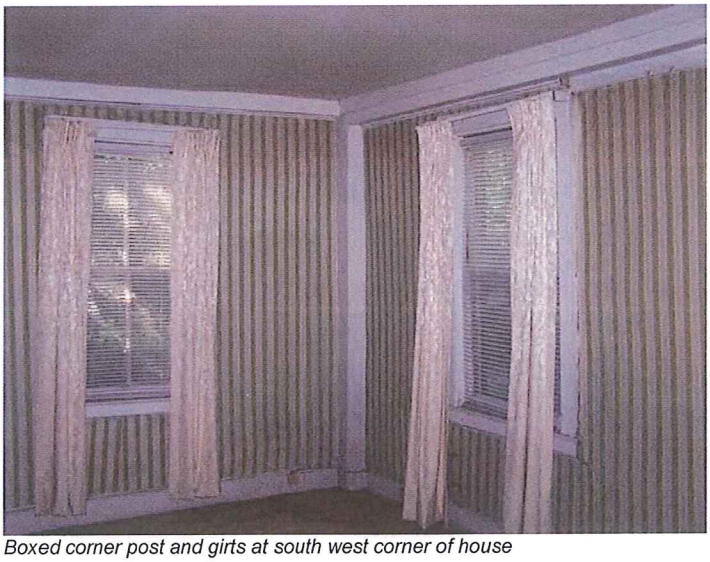
West parlour fireplace remnant blocked with wallboard

In the east parlour where the fireplace would have been is now a closet.



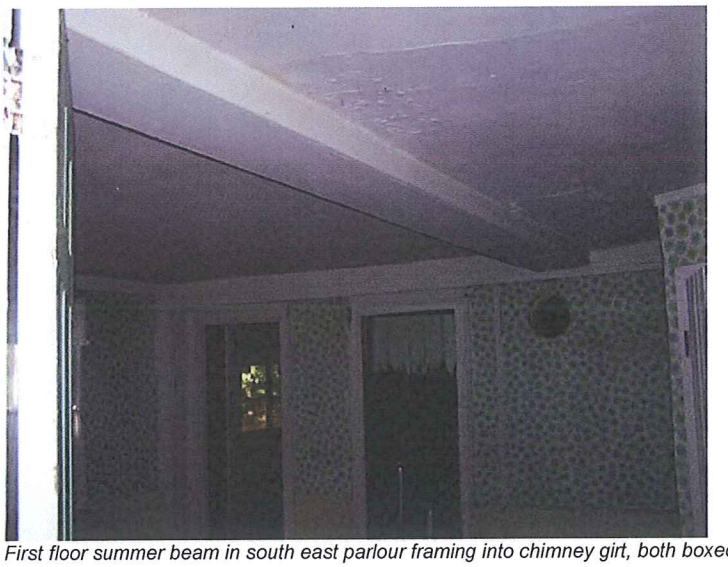
East parlour closet in area of former fireplace.

In all corners of the house at both first and second floors are boxed corner posts and their girts. Boxed summer beams cross the front two parlour ceilings of the first floor but have been covered by their plaster ceiling on the second floor.



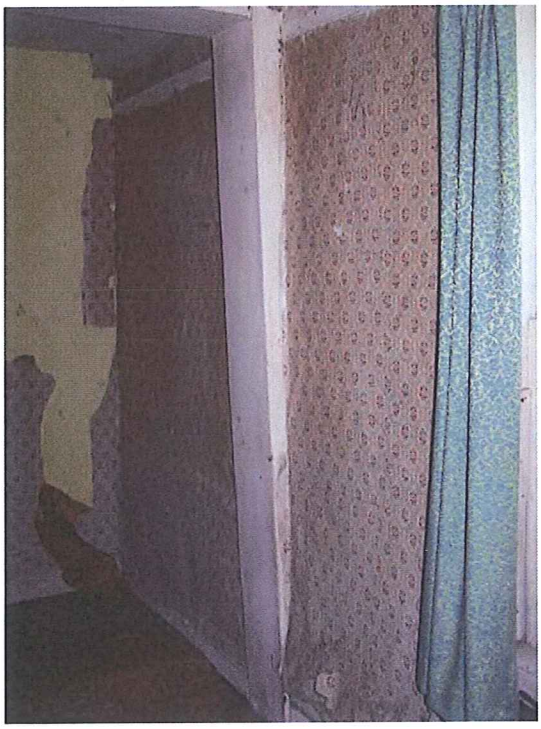
Boxed corner post and girts at south west corner of house

Boxed, flared cornerpost and girts, second story south west corner.

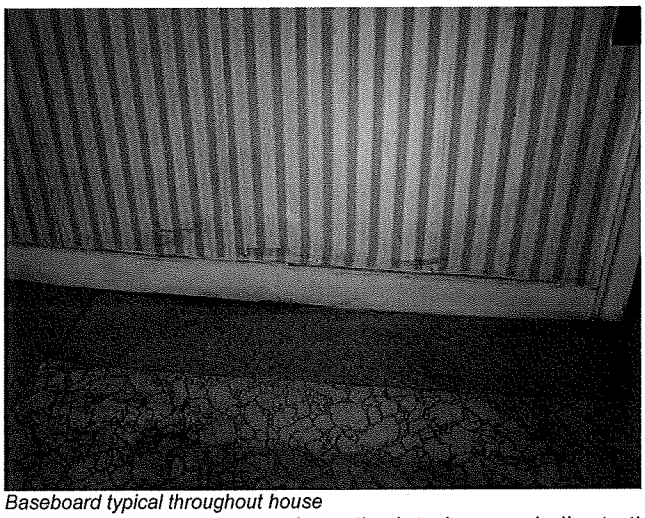


First floor summer beam in south east parlour framing into chimney girt, both boxed

Posts also frame and support the chimney girts on the south and east sides of the house at both first and second stories.



The posts are flared to accommodate English tying joints. The ceilings have been plastered on both floors. Baseboards have a simple quarter-round - carved rather than applied - molding above a straight base.

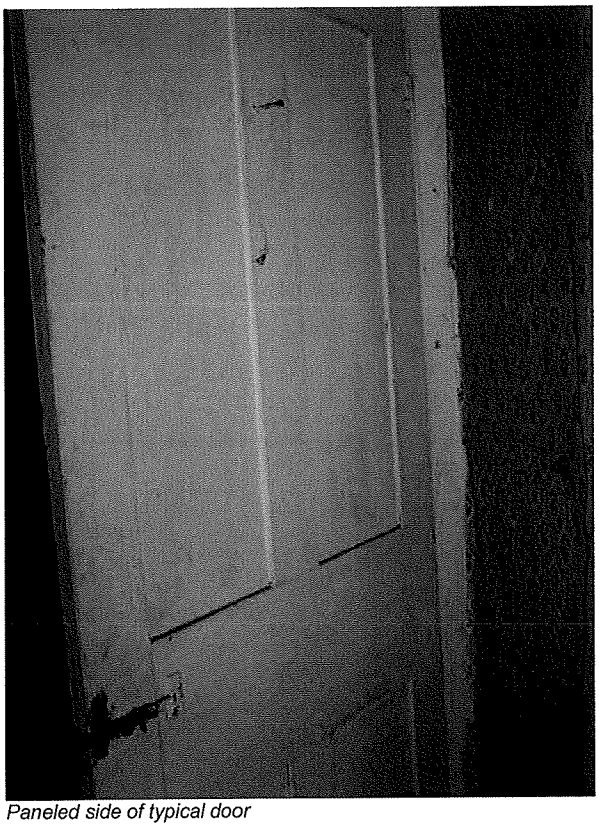


Baseboard typical throughout house

Door and window surrounds on the interior are similar to the exterior having a simple-profile, architrave molding surround.

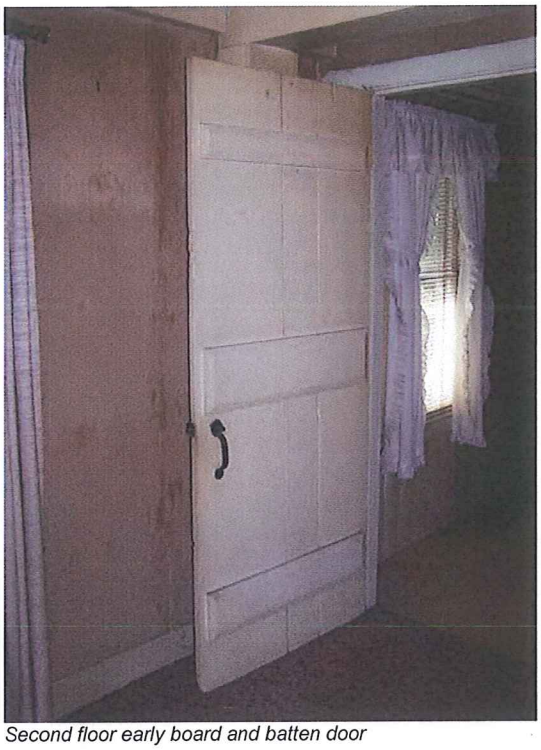
Norfolk latch on typical door

Throughout the house the doors are single-width with shallow, incised panels on one side and slightly recessed panels on the other side. Their hardware consists mainly of Norfolk latches.



Paneled side of typical door

However, there are two board and batten doors in the house. On the second floor is one in the south east chamber.



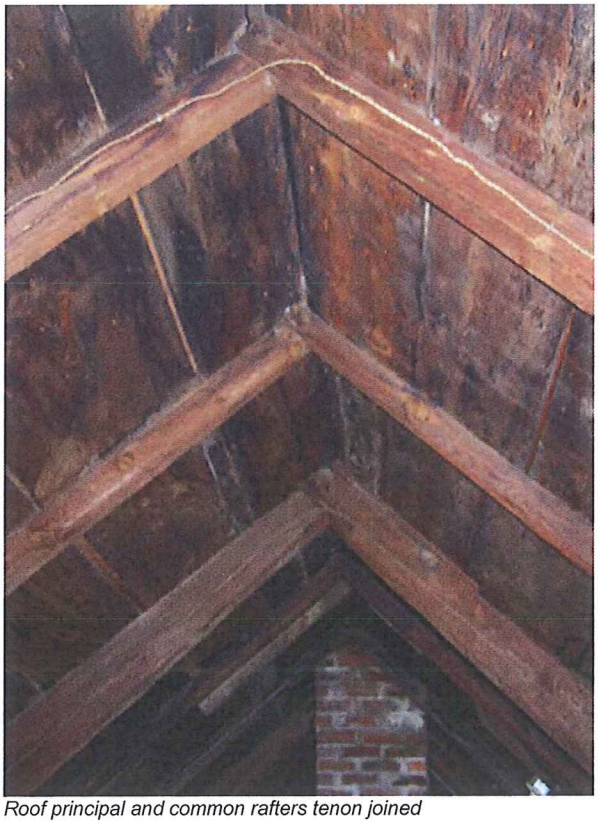
Second floor early board and batten door

And in the basement is a double board and batten door that may originally have been a door to the exterior.

Early board and batten door in cellar two boards wide and two boards thick

The widest floor boards in the house generally range between 13 1/2" and 19" in width.

The attic and basement of the house reveal its structure fairly well and help to date the house. In the attic the roof is a principal rafter roof with four pair of principle rafters tenon jointed and pegged without a rafter pole. Principal rafters measure 8" x 5" and common rafters are 3" x 3". A single row of purlins are staggered and notched into the principal rafters. They are approximately the same dimensions as the principal rafters. There was no bracing in the attic, nor are there collar beams. No framing numerals were visible, though lighting was not optimal. Three of the principal members had unused mortise holes suggesting either a reused timber or a framing error. This does not equate to reusing an older building.



Roof principal and common rafters tenon joined

Purlins staggered and joined to principal rafters

Typical purlin joints with treenail

Sheathing boards measuring about 17" in width are vertically laid between rafters. The principal rafters and purlins are hewn, the common rafters are upright mill-sawn. The attic has been floored so that portion of the structure was not visible to determine the arrangement of tie beams and summer beams. One could see that rafter ends are pegged into the plate, but the nature of their joint was not visible. Roof sheathing and flooring were replacement wood in the areas in which the original chimney penetrated the roof.

In the basement or cellar of the main block of the house, hewn floor joists are let into the sill and support the floor planking above.

Floor joists and intact sill above brick foundation repair walls

Floor joists and cellar girts are hand hewn, here square rule has been used to fit joint

Foundation walls have been repaired and reinforced on all sides of the cellar indicating that there may have been an on-going issue with water penetration. Fieldstone beneath the sills was mixed in some places with brick fragments in a cementitious mixture. Brick was available in Amherst at least as early as 1818. An inner wall of brick, see above, was also constructed in places so the original cellar walls, I believe, are nowhere fully visible, having been covered. The sills where

visible are in reasonable condition except for the north side of the house where the sill is deteriorating visibly in the center bay. There are windows in the cellar.

CONCLUSIONS

The main block of the house is an 18th century building that used a scribe rule, post and beam framing system as evidenced by the flared posts. This framing system was the earliest to be used in this country by colonists who brought it from England and it is a sure mark of an early house. Square rule framing, which succeeded scribe rule, made its first appearance in 1812 in Goshen in this region so the house could end-date to 1812.

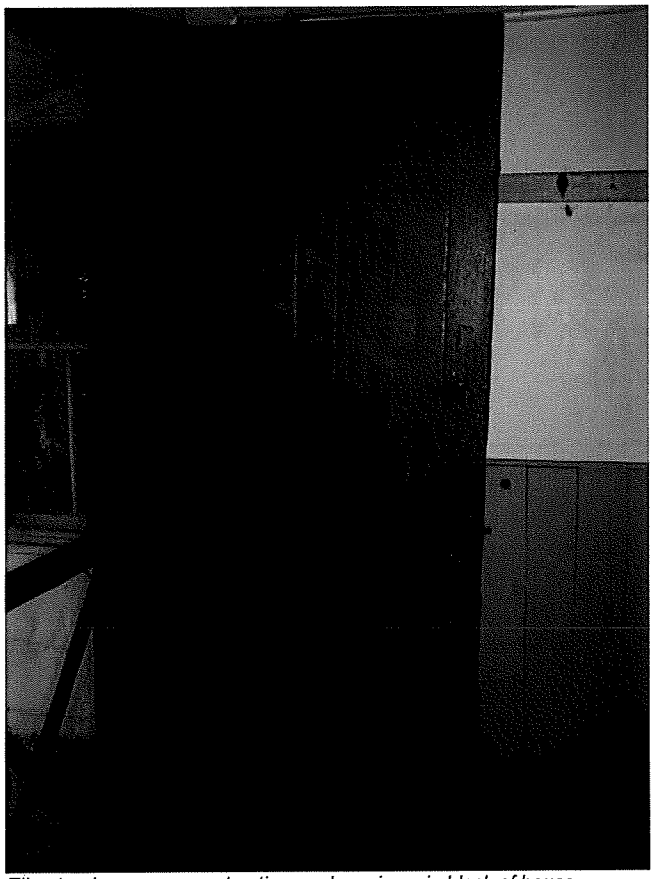
The roof framing system of principal rafters joined by a single purlin row with common rafters lying outside the purlins, and the rather steeply pitched roof dates it to the second half of the 18th century, though examples of this system in Connecticut date as early as 1730. The presence of boxed corner posts, girts, and summer beams in plastered walls and ceilings in the first floor rooms places the house after 1750, as well. The presence of windows in the cellar foundations suggests a post-Revolution date as Georgian period houses had lower foundations in general.

On the interior the loss of window sashes means that window muntins cannot act as a dating tool, and without extracting nails from the house, using nails to help date is also problematic. A few nailheads visible on the exterior window surrounds appear to be cut nails rather than wrought, but this would only tell us that the window surrounds were erected when cut nails were available in the area sometime between 1750 and 1820. Doors are very simple and do not have moldings that would identify them as from a finely built house, rather from a country Federal.

The loss of the center chimney and insertion of a straight run stairway is unfortunate for the integrity of the house, as is loss of the main door surround. Removal of the chimney foundation in the cellar is very unusual. Old photographs of the house could help in the reconstruction of the door surround and restoration of the correct window configurations. Removal of the siding would help reveal the age of the house.

The Ell exterior description

The ell has a porch across its south elevation and is three bays long, one of which is a six-panel entry door. A window beside the door (not visible in the photograph) has 12/12 sash. Elsewhere the windows have 2/2 sash. The ell has been covered with the asbestos siding and has an asphalt shingle roof. Attached to the east end of the ell is a two-bay garage of mid-20th century date in poor condition.



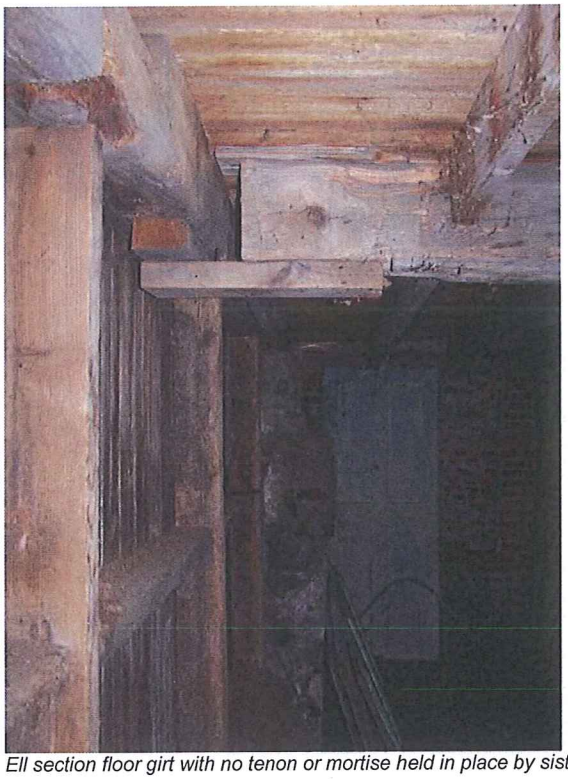
Ell entry door same construction as doors in main block of house

The ell on the interior is divided into three rooms on the first floor. A large kitchen is where one enters, and on its east end are two small rooms, one a pantry with shelving. The large room has plaster walls and wainscoting. The small rooms' outer walls are animal hair mixed plaster on hand-split lathe. The inner partition wall is wood plank. There are boxed posts visible at the corners of this portion of the building as in the main block of the house, but they are straight rather than flared.

View to north east in ell kitchen. Pantry in background

The cellar is a curious piece of work gerrymandered and repaired over time. Upright saw-cut floor joists are tenoned into hewn cellar girts. Sill repairs are evident.

Lapped sill repair in ell section of cellar



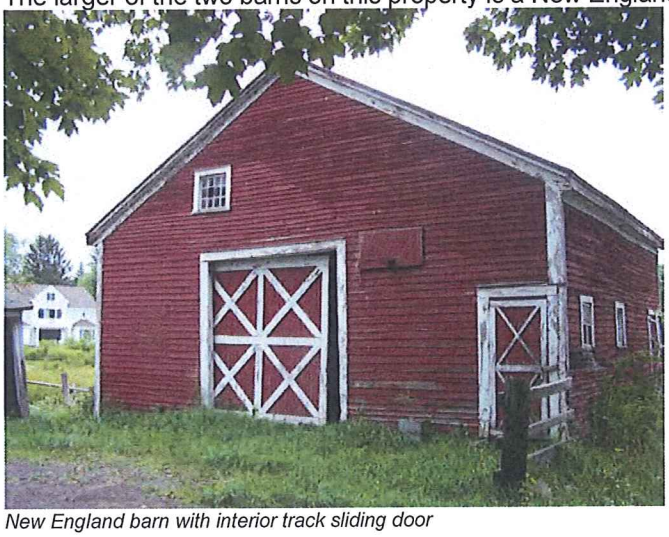
Ell section floor girt with no tenon or mortise held in place by sisters

CONCLUSIONS

The ell is of later date than the house. It is post and beam constructed but according to square rule, which would place it after 1812. It may indeed have been moved from another location to add on to the house, which would explain some of its repairs.

The New England Barn

The larger of the two barns on this property is a New England barn with its entry in the gable end.



New England barn with interior track sliding door

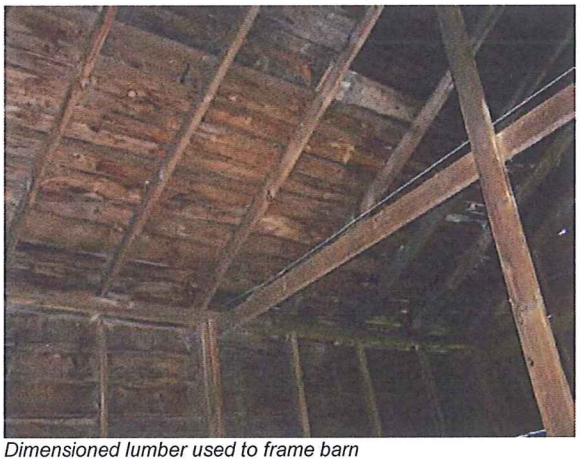
It rests on fieldstone foundations that have tumbled in several places and have had some cement repair work done. The barn was well-built and sided in quarter-sawn clapboards, most of which are probably still original.

Portion of sill on cement above fieldstone

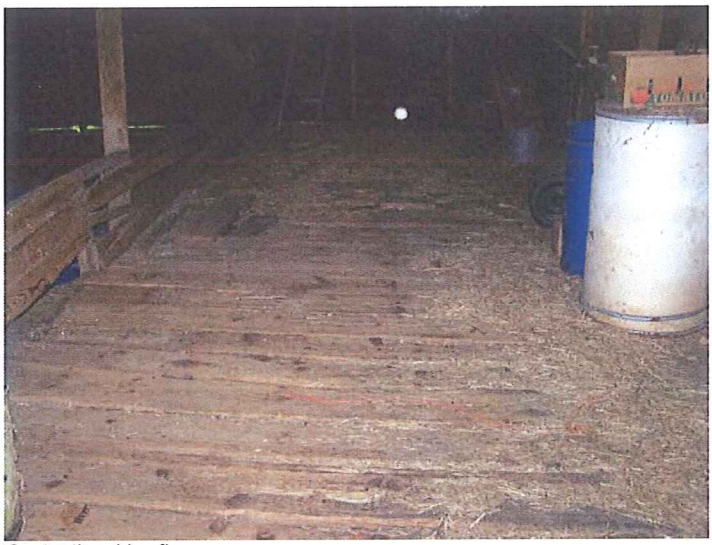
Windows are fixed 12-light and 6-light sash. Wide cornerboards, frieze and boxed eaves mark the barn with style. The main entry is a sliding door on an interior track and adjacent to it is a pedestrian door for entry from the farmyard. A third door for animals to enter their stalls is located on the south elevation.

West and south elevations of New England barn

It was an all-purpose barn with off-center main aisle flanked by animal stalls on the south and open storage on the north. Windows on the south elevation mark the stalls. This barn is balloon-frame constructed.

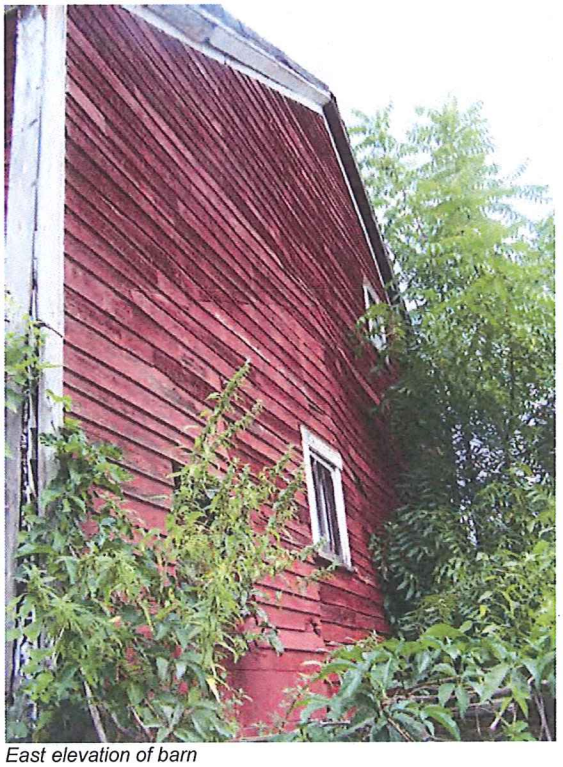


Dimensioned lumber used to frame barn



Center threshing floor

Stud walls are bowing on the barn perhaps due to failing foundations and water penetration from the roof.



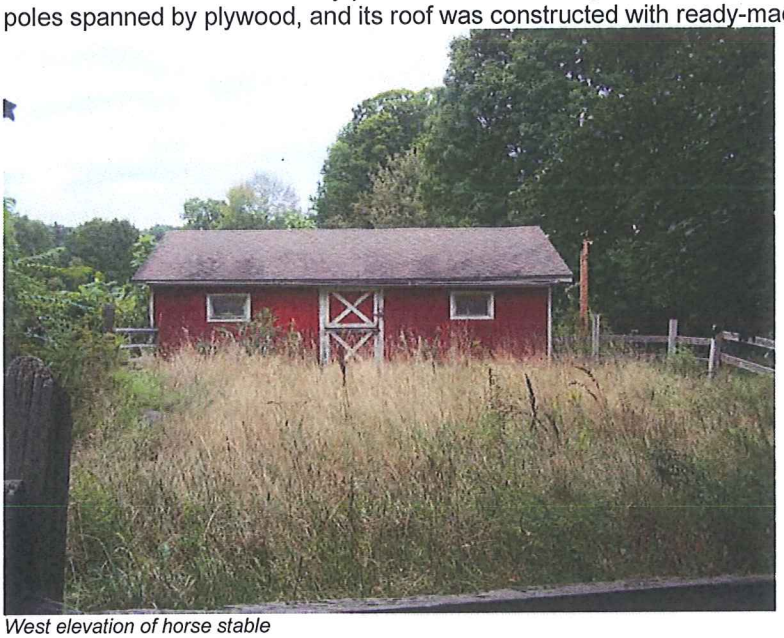
East elevation of barn

CONCLUSION

The New England barn is likely a later 19th, century building, ca.1880-1890. There is not a great deal of distinction among barns from the turn-of-the-century making dating a barn imprecise. It is not in good condition, but is repairable.

Horse Stable

The horse stable is a one-story pole barn with a side-gable roof. It is constructed of telephone poles spanned by plywood, and its roof was constructed with ready-made rafters.

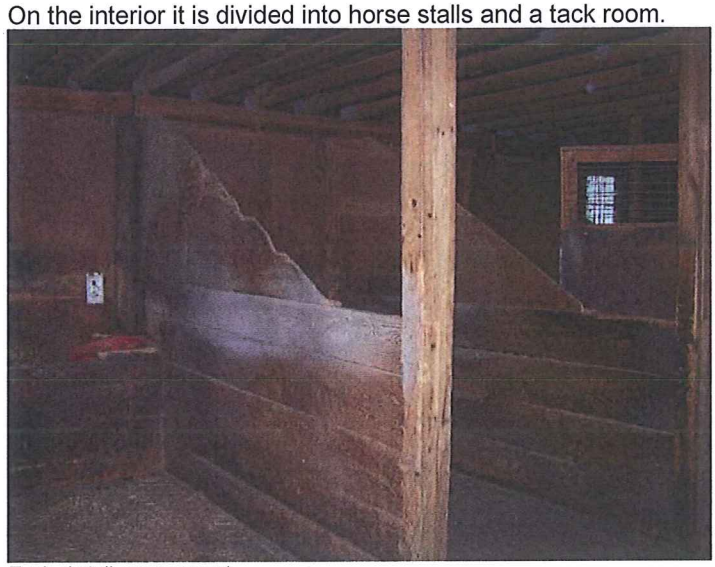


West elevation of horse stable

Corner telephone pole support

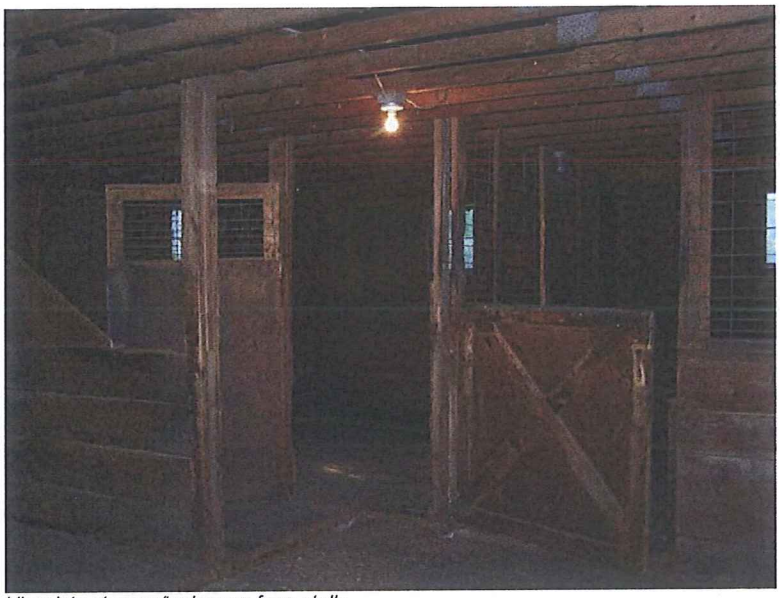
Pre-fabricated rafters

On the interior it is divided into horse stalls and a tack room.



Typical stall arrangement

The stalls have feed troughs, wood floors, and partitions. The stable is in good condition and is interesting historically as a new development at the time of the Depression for barn construction using extant telephone poles.



View into storage/tack room from stalls

CONCLUSION
This barn was probably built in the 1940s-50s, though it could have been later.

HISTORICAL CONTEXT OF THE HAWTHORNE FARM

East Pleasant Street originated as a common land division road when Amherst was part of the Hadley Plantation's Outward Commons and was divided in 1703. Its settlement began in the early 18th century and farms spread out along the road. Five 18th century houses that have been identified by inventory on East Pleasant Street and the Hawthorne house would make the sixth. By 1830 there were ten houses on East Pleasant Street between Triangle and Strong Streets. This house appears on the map of 1833, the third house south of Strong Street, though it was not named on that map.

By 1860 there are four houses south of Strong Street. The third house south of Strong Street belongs to E. Ayers, the fourth to J. Ayers. It is not evident whether the Hawthorne House is the third house or the fourth on this map as the spacing on the map is approximate.

E. Ayers.
In the federal census of 1870 Elijah Ayers appears as a farmer 58 years old, his wife Susan 53, son Charles 26, daughters Sabra, a 23 year old teacher, and Susan an 18 year old still in school, and two-year old Alice Heath. The Ayers' real estate was worth $1500, a mid-sized farm.

J. Ayers
Josiah Ayers appears on the federal censuses of 1850 and 1860 and in 1860 is listed in sequence with his neighbors the Cutters, so he was on East Pleasant Street. Josiah and his wife Catherine in 1860 were 50 and 45 years old and they lived with Eunice Hawley and John McTaggert, an Irish immigrant. The latter was a laborer and probably worked on the Ayers farm. Josiah and Catherine's farm between 1850 and 1860 rose in value from $7200 to $8,000, a rather substantial farmstead. Research by the Amherst Planning Department suggests that the fourth house is the Hawthorne House and belonged to Josiah Ayres, Jr. who died in 1860. It is clearer from this map that the fourth house is the Hawthorne House.

The map of 1873 shows the same four houses south of Strong Street, though a fifth much further south also now appears. The Hawthorne House is identified as being the house of E. Merritt. The only Merritt or Merrit family that appears in Amherst in 1870 is that of Mayhew and Sara Merrit whose neighbors were not any of those found on East Pleasant Street on the 1873 map, which suggests that they lived elsewhere in town. No E. Merritt appears in 1870, although by 1880 Eveline Merritt an 8 year old does appear, so there is a slim chance that she had inherited the house. Her mother was Lillian Sanderson Merritt and the two of them were living with Lillian's family in 1880. Research into deed and probate records might clarify the ownership of the farm at this period.

The house is clearly in view on the 1886 Birds-eye-view of Amherst with its ell and a barn.

While this project does not provide for a full narrative of the house's owners and their occupations, it is clear that the house was in agricultural use from the time of its construction into the mid-20th century. The house has sustained losses due to modernization efforts of the late 19th century, but retains a relatively rare structure that could be expected, with sill repairs, to continue functioning for another two hundred years. It is one of Amherst's Federal period farmhouses and represents farming as it took place for the majority of Amherst's residents between the late 18th and mid-20th centuries.

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Beers Atlas, 1873.
Walling map of 1860
Adams and Grey map of 1830.
Batchelder, bird's eye view of 1886.

Additional Investigation of Hawthorne House
19 April 2012
By Bruce Coldham and Bonnie Parsons

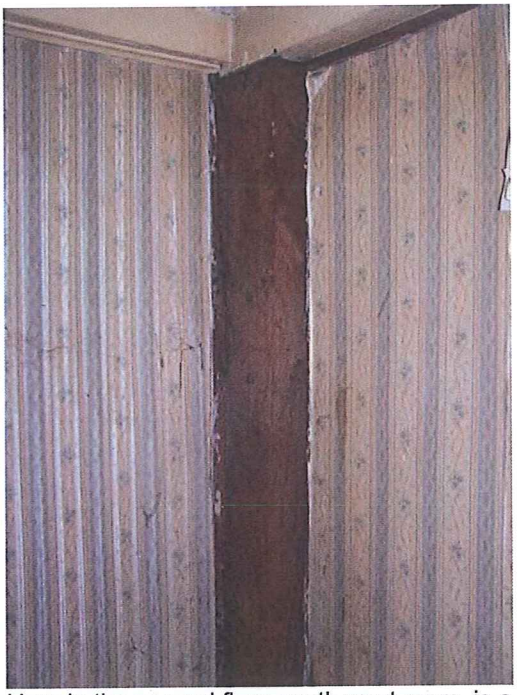
This visit to the house literally uncovered additional structural information on the Hawthorne House's construction, as casings were removed at first and second floor posts, at summer beams, and an attic floor was lifted at the plate to provide an additional view of the tying joint at the attic corner post. Closer investigation was also made of the principal rafters in the attic and of the floor joists and sills in the cellar.

On the basis of this field investigation, the scribe rule construction of the house was confirmed and dimensions of its timbers were recorded to be incorporated in the drawing documentation of the building. The distinction between the two approaches to framing – the 18th century scribe rule and the post-1812 square rule - illuminates the significance of this house from the structural point of view. One of the best descriptions of the scribe rule technique of joinery is that of Thomas Visser in his Field Guide to New England Barns and Farm Buildings, published by the University Press of New England, Hanover and London, in 1997. It is as follows with my addition of bold typeface:

> "From the first English settlement of New England through the early 1800s, timber joiners typically cut each tenon to fit a specific mortise in the frame, following a technique for making timber frames known as **the scribe rule**. Also known as the Latin scribe rule, the obscure origins of this framing technique date back at least to medieval Europe.
>
> After a mortise was cut in one timber, the tenon on the joining timber would be cut. The two timbers would be brought together to adjust the fit of the joint. After being joined, the irregular shape of the receiving timber was scribed to the end of the timber being inserted. Excess wood was removed to the scribe line.
>
> After fitting, the joints on each timber would be inscribed with "marriage marks" to identify how to reassemble the frame. These were usually located on the outside faces of the timbers, where they would not show after the barn was boarded. By carefully examining a frame produced by the scribe rule, one will typically find these Roman numeral-like marriage marks. ...
>
> Corner posts and side posts of scribe rule frames were usually flared at the top into "gunstocks" to allow more wood for making the pegged, mortise-and-tenon joints with the plates and tie beams. Plates, ridgepoles, and common purlins were often hewn from a single tree with a taper following the natural shape of the log.
>
> A new technique for joining timber frames was adopted by builders during the early 1800s, inspired by the principles that were revolutionizing industrial production. Known as **the square rule**, this framing technique is based on a mathematical design model with interchangeable parts. Rather than custom-drafting each joint by scribing each timer to another, the square rule allowed framing parts to be cut to predetermined dimensions with the aid of patterns and measurements marked with a framing square. Thus, each mortise was cut to precise dimensions.
>
> With the shift from the scribe rule to the square rule, time was saved and the required level of skill of the workers was reduced. Instead of custom-fitting and trimming each joint, each timber would be cut to the proper dimensions, nd the fit of the joints would not be tried until the raising."

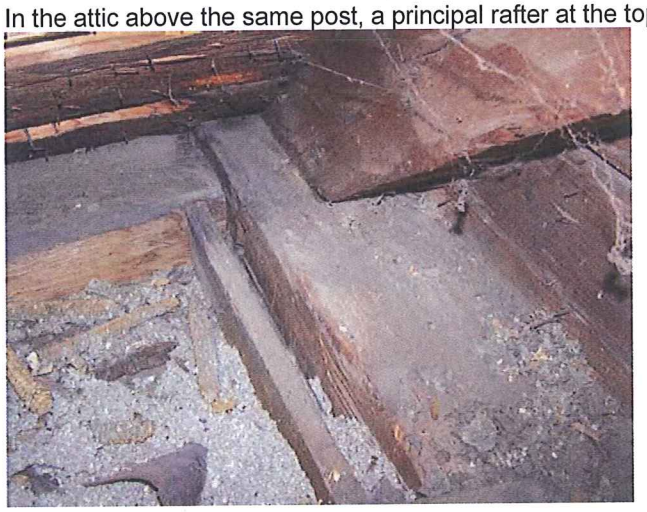
With Visser's description of the two framing techniques in mind, it is clear that the Hawthorne House's gunstock posts noted on the second floor in the earlier investigation of the house are elements of the scribe rule technique and are in all likelihood part of an English tying joint, or a

three-way joint made up of post, principal rafter and plate all being connected by a single joint accommodated by the wider upper surface of the post. Only with removal of all the building's siding and interior surfaces would the full joint be visible, however.



Here in the second floor south west room, is a revealed gunstock post whose casing has been removed to show that it increases from about 8" to 11" at its top flare, or "jowl". The wood is in pristine condition, and a small sample was taken to identify its species.

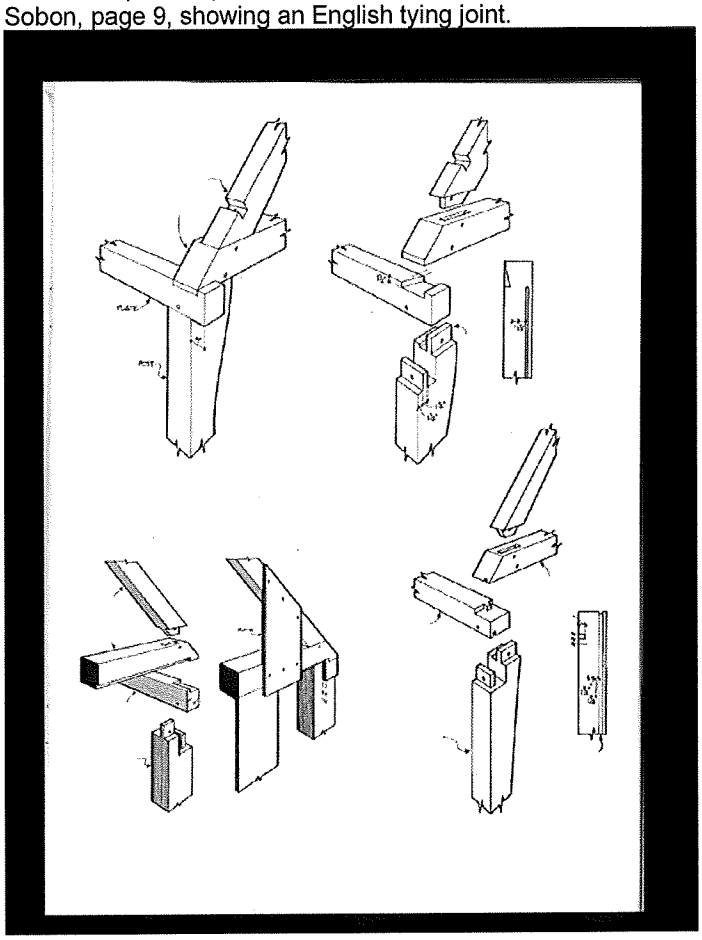
In the attic above the same post, a principal rafter at the top is joined with the plate.

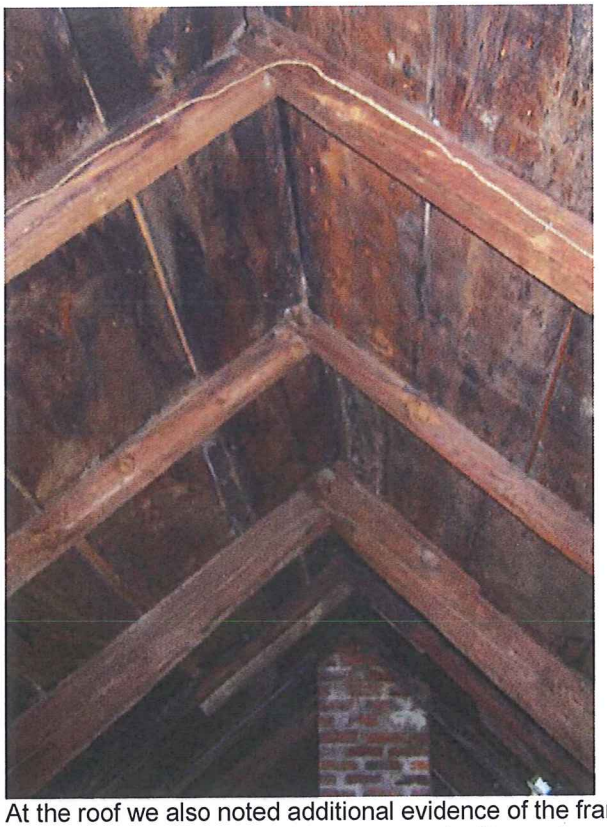


On close inspection there are what appear to be shallow marriage marks on the inside of the plate at the joint: "I I I V".

Note the corncobs between floor joists for insulation.

Below is a plate copied from Historic American Timber Joinery: A Graphic Guide by Jack A. Sobon, page 9, showing an English tying joint.





At the roof we also noted additional evidence of the framing of the house. The principal and common rafters of the roof are engraved with marriage marks as show in the two following photographs, so that after their joints at the roof ridge were individually cut into mortise and tenons, they could be laid aside and then re-assembled as the framers got to the roof structure.

Further research has also more closely identified the type of roof framing found at the Hawthorne House as a, "Principal Rafter-Principal Purlin-Common Rafter Roof", considered by Jack Sobon, architect and historic timber framer, as one of the most elaborate roof systems found in historic American timber joinery. Sobon goes on to say that (the) "advantages of such a design to warrant the extra cutting work are that the common rafters can be shorter and of lighter scantling, and bracing can be conveniently framed in to stiffen the roof. "

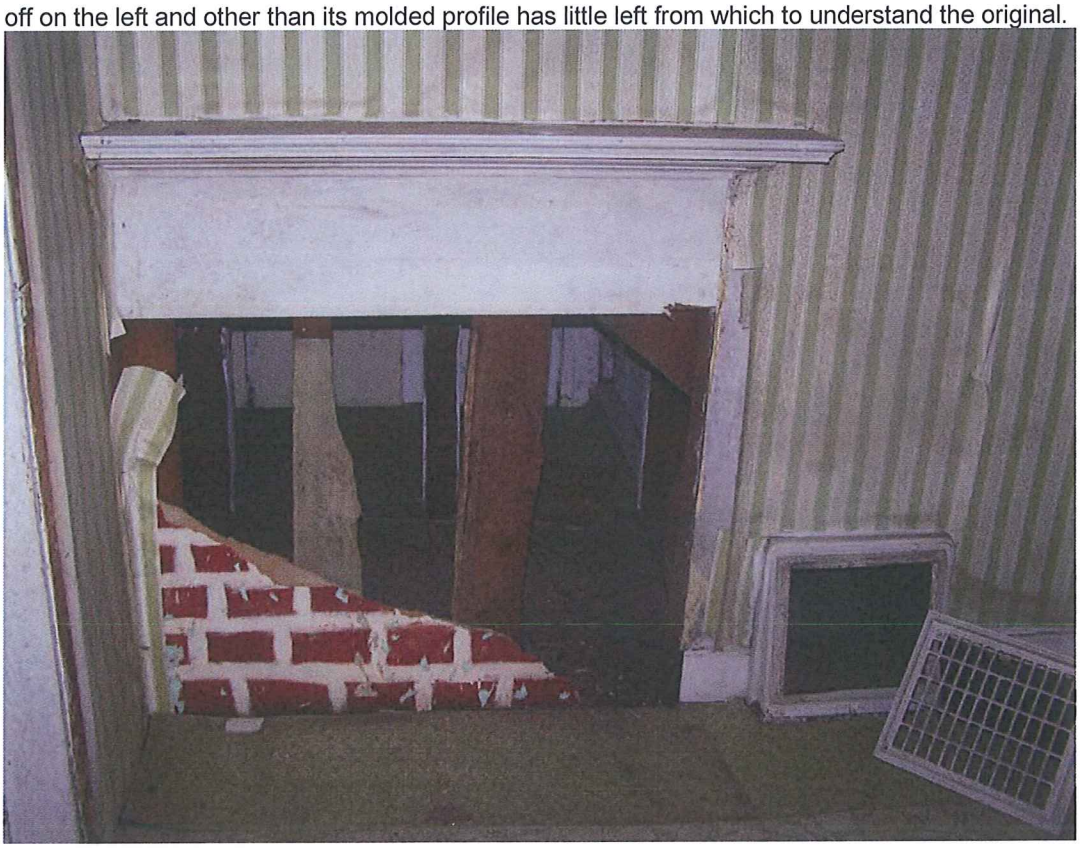
At the first floor level, ceiling lathe and plaster and casing of the summer beam were removed to expose the beam's hewn surface and the surface of the sawmill-cut floor joists of the second floor. Visible in this photograph is the summer beam where it joins the chimney girt on the left and two floor joists that have to the been let in to the summer beam at the center. Close inspection shows that tenoned joints were used for both summer beam and floor joists. This is the strongest joint possible as it does not involve paring down the carrying timber to cut the mortises as do other joint forms. The carrying timber maintains almost all of its original strength. This is an important finding when evaluating the structural strength of the building. The summer beam's faces have not been beveled or otherwise ornamented, so it does not appear that it was originally intended to remain exposed, rather that lathe and plaster were assumed to be the finish surfaces. The lathe is, indeed, hand split and the plaster is an early mixture of animal fur and plaster. In the photograph, the width of the floorboards above is also clear, measuring 14-17".

The floor joists's saw marks are those made by a water-powered sawmill equipped with a sash saw. Sash sawmills are thought to have operated as early as 1750 in Leverett at the Joseph Slarrow mill in North Leverett, and were responsible for cutting the timber for framing until about 1850 in the region.

A detail view of the sawmarks shows them to be about ½ to 1" apart and straight, characteristics of the particular type of sash saw.

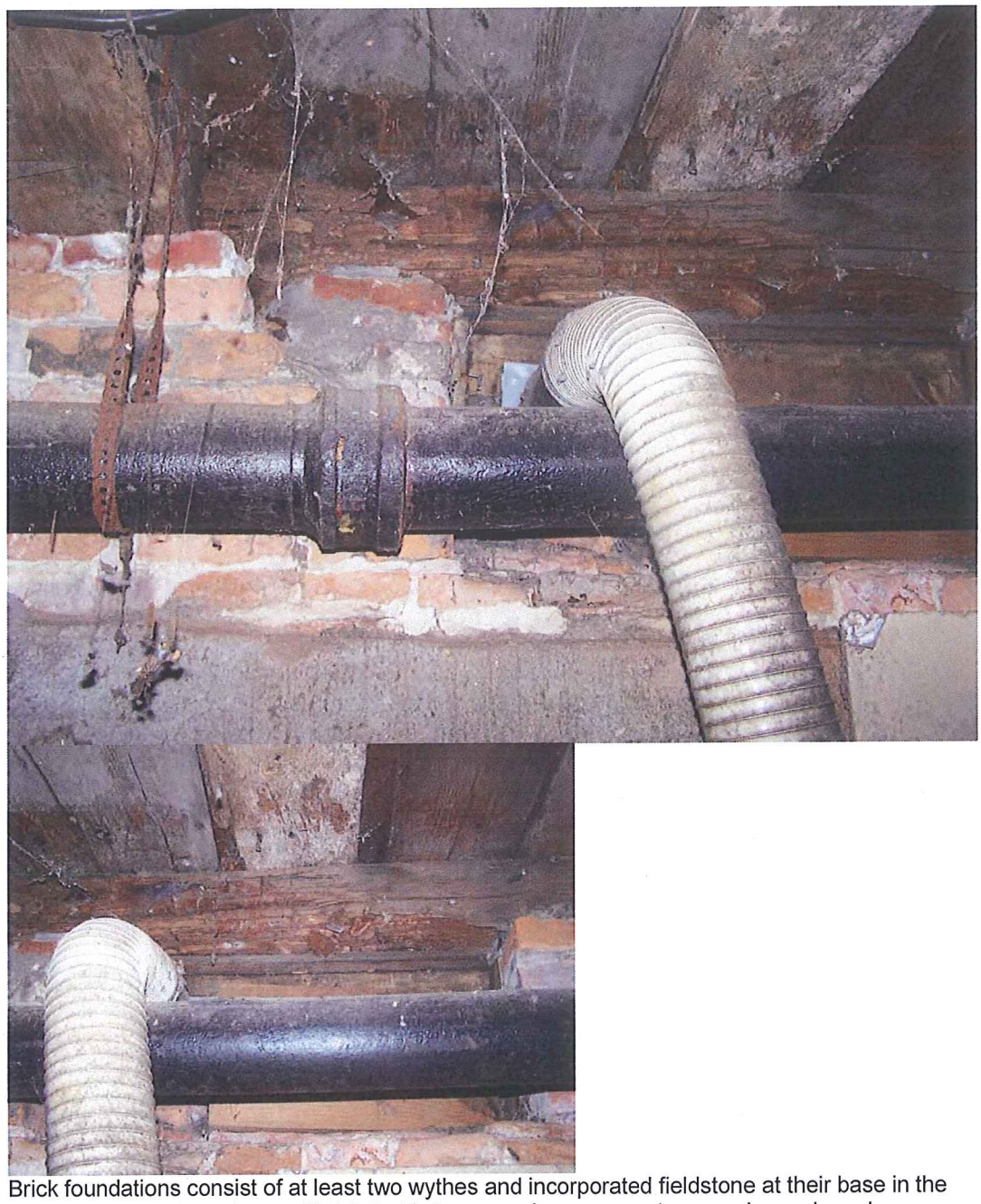
On this visit we opened the enclosed fireplace in the first floor parlour exposing the closet on the far side and the area the center chimney formerly occupied. The fireplace surround has been cut

off on the left and other than its molded profile has little left from which to understand the original.



In the cellar beneath the main block of the house, the extent of deterioration of some of the sills and floor joists was underscored. Some of the floor joists appear to have been sawn on all sides. Others were planed only on their top where floor sheathing board were to be laid, sometimes known as "sleepers". The floor joists, girts and sills were tested for moisture and none met the critical 15% point, so the basement is dry. However, the some-time presence of powder post beetles was clearly recognizable on several of the joists and as below, material loss by dry rot.

The sill on the north elevation is showing considerable material loss.



Brick foundations consist of at least two wythes and incorporated fieldstone at their base in the outer layer. The inner layer of brick that is in some places cement-covered, may have been added as a later strengthening effort.

Appendix D —

Lead testing laboratory report

coldhamandhartman.com 49 S. Pleasant Street, Suite 301 Amherst, MA 01002 413.549.3616

Report Date:
15-May-12 10:29

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Coldham & Hartman Architects
49 South Pleasant Street
Amherst, MA 01002
Attn: Samantha Wood

Project: Hawthorne Meadow Farm - Amhearst, MA
Project #: 12-04

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB48447-01	Exterior Wind. Trim	Paint Chips	13-Apr-12 13:00	02-May-12 08:50
SB48447-02	Int. Door & Wind. Trim	Paint Chips	13-Apr-12 13:00	02-May-12 08:50
SB48447-03	2nd Fl Board Floor	Paint Chips	13-Apr-12 13:00	02-May-12 08:50

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 5 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

CASE NARRATIVE:

The samples were received 15.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Samples:

SB48447-01 *Exterior Wind. Trim*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SB48447-02 *Int. Door & Wind. Trim*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SB48447-03 *2nd Fl Board Floor*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

Sample Identification
Exterior Wind. Trim
SB48447-01

Client Project #	Matrix	Collection Date/Time	Received
12-04	Paint Chips	13-Apr-12 13:00	02-May-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	**76,300**	GS1	mg/kg	223	7.94	50	SW846 6010C	10-May-12	11-May-12	LR	1210822	

Sample Identification
Int. Door & Wind. Trim
SB48447-02

Client Project #	Matrix	Collection Date/Time	Received
12-04	Paint Chips	13-Apr-12 13:00	02-May-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	**45,600**	GS1	mg/kg	94.6	3.37	20	SW846 6010C	10-May-12	11-May-12	LR	1210822	

Sample Identification
2nd Fl Board Floor
SB48447-03

Client Project #	Matrix	Collection Date/Time	Received
12-04	Paint Chips	13-Apr-12 13:00	02-May-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	**18,400**	GS1	mg/kg	100	3.56	20	SW846 6010C	10-May-12	11-May-12	LR	1210822	

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1210822 - SW846 3050B										
Blank (1210822-BLK1)						Prepared & Analyzed: 10-May-12				
Lead	< 4.99		mg/kg	4.99						
Reference (1210822-SRM1)						Prepared & Analyzed: 10-May-12				
Lead	**39.8**		mg/kg	5.00	46.4		86	82.24-117.65		
Reference (1210822-SRM2)						Prepared & Analyzed: 10-May-12				
Lead	**42.0**		mg/kg	5.00	46.0		91	82.24-117.65		

Notes and Definitions

GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor

SB48447 UC

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☒ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Coldham & Hartman Architects
49 S. Pleasant St
Suite 301
Amherst, MA 01002
Telephone #: 413-549-3616
Project Mgr. Samantha Wood

Invoice To: Same
Same
Call Lori - 549-3613
for Credit Card Payment
P.O. No.: _____ RQN: _____

Project No.: 12-04
Site Name: Hawthorne Meadow Farm
Location: Amherst State: MA
Sampler(s): Samantha Wood

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11= _____ 12= _____

List preservative code below:

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= Paint chip X2= _____ X3= _____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Bag	Analyses: Analine for total lead								QA/QC Reporting Notes:
48447-01	Exterior Wind. Trim	4/13	1 pm		X1					1	✓								
-02	Int. Door & Wind. Trim	4/13	1 pm		X1					1	✓								
-03	2nd FL Board Floor	4/13	1 pm		X1					1	✓								

MA DEP MCP CAM Report: ☒Yes ☐ No
CT DPH RCP Report: Yes ☐ No

QA/QC Reporting Level
☐ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER IV*
☐ Other _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
Sam Wood U.S.P.S.	[signature]	5/3/13	850	15°

☐ EDD Format _____
☒ E-mail to samantha@coldhamandhartman.com

Condition upon receipt:
☒ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

15° amb

Appendix E1— Construction cost estimate for historically appropriate renovation prepared by Steve Ferrari

Appendix E2— Construction cost estimate for new portion of renovated duplex prepared by Steve Ferrari

Appendix E3— Construction cost estimate for completely new construction prepared by Steve Ferrari

					This House
		COST SUMMARY		A	1638
		Farmhouse Reno, Hawthorn Meadow		B	0
		East Pleasant ST, Amherst, MA		C	0
		05/20/2011		D	1638
	REV. DATE:	05/29/2012		E	72
	CATEGORY #	CATEGORY NAME		COST	Cost per Adj Square Feet
	01	DESIGN & ENGINEERING		$2,500	$1.53
	02	SITE		$29,925	$18.27
	03	WATER		$0	$0.00
	04	DEMOLITION		$40,630	$24.80
	05	LANDSCAPING		$17,340	$10.59
	06	FOUNDATION		$16,726	$10.21
	07	FRAMING		$43,689	$26.67
	08	WINDOWS & DOORS		$10,070	$6.15
	09	EXTERIOR TRIM		$6,185	$3.78
	10	SIDING		$8,687	$5.30
	11	ROOFING		$6,623	$4.04
	12	PLUMBING		$11,414	$6.97
	13	HEATING		$9,550	$5.83
	14	ELECTRICAL		$12,900	$7.88
	15	SUBCONTRACTOR ASSISTANCE		$5,500	$3.36
	16	MASONRY		$0	$0.00
	17	INSULATION		$11,100	$6.78
	18	SHEETROCK		$8,600	$5.25
	19	INTERIOR PAINTING		$6,806	$4.16
	20	EXTERIOR PAINTING		$6,000	$3.66
	21	PORCHES/DECKS		$2,356	$32.72
	22	FLOORING		$4,952	$3.02
	23	STAIRS		$2,500	$1.53
	24	CABINETS/COUNTERS		$8,430	$5.15
	25	INTERIOR DOORS		$4,195	$2.56
	26	INTERIOR TRIM		$7,100	$4.33
	27	FINISH & CLEANUP		$4,125	$2.52
	28	GUTTERS		$0	$0.00
	29	WARRANTY		$4,125	$2.52
	30	BATH DETAILS		$1,850	$1.13
	31	SITE OVERHEAD		$3,450	$2.11
	32	TREE REMOVAL		$4,000	$2.44
	33	LABORING		$4,125	$2.52
	34	TRASH REMOVAL		$4,500	$2.75
	35	BUILDING PERMIT		$2,500	$1.53
	38	SPECIALTIES		$0	$0.00
	39	CONTINGENCY		$8,250	
	42	SUPERVISION		$16,500	
	45	CHANGE ORDER RESEARCH		$0	
		SUB TOTAL		$337,204	
	Excl 35-39	PROFIT & OVERHEAD @	15%	$50,581	
		TOTAL JOB COST		$387,784	

	00	LAND		$0	
	36	CLOSING COSTS		$0	
	37	CARRYING COSTS		$0	
	40	APPLIANCES		$2,800	
		TOTAL PROJECT COST		**$390,584**	

					This House
		COST SUMMARY		A	1248
		Unit A Small Rehab Option		B	0
		Hawthorne Meadow, Amherst		C	0
		05/28/2012		D	1248
	REV. DATE:	05/29/2012		E	
	CATEGORY #	**CATEGORY NAME**		**COST**	Cost per Adj Square Feet
	01	DESIGN & ENGINEERING		$0	$0.00
	02	SITE		$5,500	$4.41
	03	WATER		$0	$0.00
	04	SEWER/SEPTIC		$0	$0.00
	05	LANDSCAPING		$460	$0.37
	06	FOUNDATION		$8,399	$6.73
	07	FRAMING		$26,345	$21.11
	08	WINDOWS & DOORS		$7,091	$5.68
	09	EXTERIOR TRIM		$4,491	$3.60
	10	SIDING		$6,005	$4.81
	11	ROOFING		$2,907	$2.33
	12	PLUMBING		$11,414	$9.15
	13	HEATING		$9,550	$7.65
	14	ELECTRICAL		$10,300	$8.25
	15	SUBCONTRACTOR ASSISTANCE		$2,550	$2.04
	16	MASONRY		$0	$0.00
	17	INSULATION		$13,600	$10.90
	18	SHEETROCK		$7,500	$6.01
	19	INTERIOR PAINTING		$5,305	$4.25
	20	EXTERIOR PAINTING		$5,500	$4.41
	21	PORCHES/DECKS		$0	ERR
	22	FLOORING		$8,139	$6.52
	23	STAIRS		$2,500	$2.00
	24	CABINETS/COUNTERS		$7,810	$6.26
	25	INTERIOR DOORS		$2,525	$2.02
	26	INTERIOR TRIM		$4,868	$3.90
	27	FINISH & CLEANUP		$2,550	$2.04
	28	GUTTERS		$0	$0.00
	29	WARRANTY		$2,550	$2.04
	30	BATH DETAILS		$900	$0.72
	31	SITE OVERHEAD		$0	$0.00
	32	TREE REMOVAL		$0	$0.00
	33	LABORING		$2,550	$2.04
	34	TRASH REMOVAL		$1,560	$1.25
	35	BUILDING PERMIT		$2,000	$1.60
	38	SPECIALTIES		$0	$0.00
	39	CONTINGENCY		$5,100	
	42	SUPERVISION		$10,200	
	45	CHANGE ORDER RESEARCH		$0	
		SUB TOTAL		$180,170	
	Excl 35-39	PROFIT & OVERHEAD @	15%	$27,026	
		TOTAL JOB COST		$207,196	

	00	LAND		$0	
	36	CLOSING COSTS		$0	
	37	CARRYING COSTS		$0	
	40	APPLIANCES		$2,800	
		TOTAL PROJECT COST		**$209,996**	

					This House
		COST SUMMARY		A	1248
		Unit A Small All New Construction		B	0
		Hawthorne Meadow, Amherst		C	0
		05/28/2012		D	1248
	REV. DATE:	**05/29/2012**		E	
	CATEGORY #	**CATEGORY NAME**		**COST**	Cost per Adj Square Feet
	01	DESIGN & ENGINEERING		$0	$0.00
	02	SITE		$24,000	$19.23
	03	WATER		$0	$0.00
	04	SEWER/SEPTIC		$17,100	$13.70
	05	LANDSCAPING		$17,340	$13.89
	06	FOUNDATION		$8,399	$6.73
	07	FRAMING		$26,345	$21.11
	08	WINDOWS & DOORS		$7,091	$5.68
	09	EXTERIOR TRIM		$4,491	$3.60
	10	SIDING		$6,005	$4.81
	11	ROOFING		$2,907	$2.33
	12	PLUMBING		$11,414	$9.15
	13	HEATING		$9,550	$7.65
	14	ELECTRICAL		$12,800	$10.26
	15	SUBCONTRACTOR ASSISTANCE		$3,000	$2.40
	16	MASONRY		$0	$0.00
	17	INSULATION		$13,600	$10.90
	18	SHEETROCK		$7,500	$6.01
	19	INTERIOR PAINTING		$5,305	$4.25
	20	EXTERIOR PAINTING		$5,500	$4.41
	21	PORCHES/DECKS		$0	ERR
	22	FLOORING		$8,139	$6.52
	23	STAIRS		$2,500	$2.00
	24	CABINETS/COUNTERS		$7,810	$6.26
	25	INTERIOR DOORS		$2,525	$2.02
	26	INTERIOR TRIM		$4,868	$3.90
	27	FINISH & CLEANUP		$3,000	$2.40
	28	GUTTERS		$0	$0.00
	29	WARRANTY		$3,000	$2.40
	30	BATH DETAILS		$900	$0.72
	31	SITE OVERHEAD		$3,450	$2.76
	32	TREE REMOVAL		$4,000	$3.21
	33	LABORING		$3,000	$2.40
	34	TRASH REMOVAL		$1,560	$1.25
	35	BUILDING PERMIT		$2,000	$1.60
	38	SPECIALTIES		$0	$0.00
	39	CONTINGENCY		$6,000	
	42	SUPERVISION		$12,000	
	45	CHANGE ORDER RESEARCH		$0	
		SUB TOTAL		$247,100	
	Excl 35-39	PROFIT & OVERHEAD @	15%	$37,065	
		TOTAL JOB COST		$284,166	

	00	LAND		$0	
	36	CLOSING COSTS		$0	
	37	CARRYING COSTS		$0	
	40	APPLIANCES		$2,800	
		TOTAL PROJECT COST		**$286,966**	

Appendix F —

House moving proposal letter from Granite State Movers

Stan's
Granite State Building Movers, LLC

21 Westside Dr.
Atkinson, NH 03811

Phone 603-362-9580
Toll free 877-240-0040
Fax 603-362-9204
Email: stanwildes@gmail.com

May 8, 2012

Smart Build, Inc.
103 Ryan Road
Florence, MA 01062
T: 413-588-8975
F: 413-586-1832
Email: steve@gmail.com

Job location: #235 East Pleasant Street, Amherst, MA

Work consists of:

Option 1

A) Structurally support house above first story floor, raise then hold so others can remove floor and existing foundation then replace with a new wooden floor and concrete foundation.
B) Once work is completed mover will lower house onto wall and remove his equipment.
C) Estimated cost of option 1 is $24,500.00.

Option 2

A) Structurally support house, then move within a several mile radius of present location and set on a foundation provided by others.
B) All permits, police escorts, tree limbing or removal excavation and foundation work to be provided by others at no cost to mover.
C) Estimated cost to move house is $40,000.00 to 60,000.00. Cost depends on distance of move, new lot conditions and other unknown factors.

Thank you for having us bid your project,

C. Stanton Wildes
Stan's Granite State Building Movers, LLC

Hawthorne Meadow Feasibility Study

APPENDIX G
Photographic Images of the existing conditions

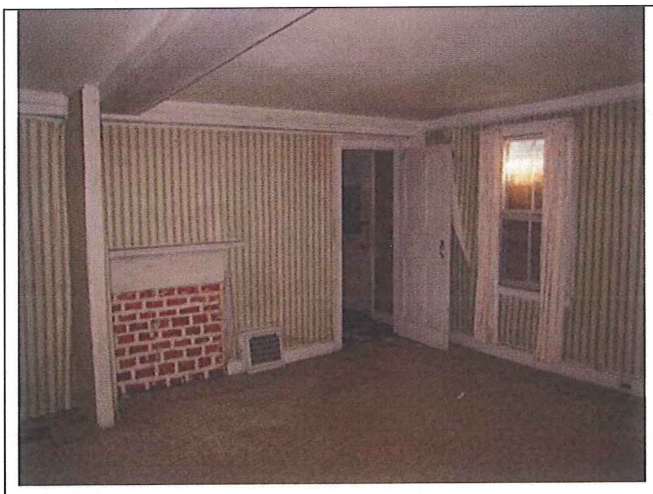
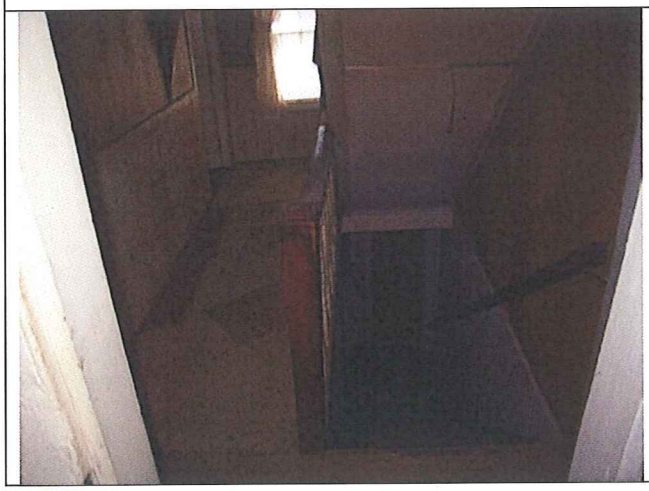
Prepared for:
The Town of Amherst office of Conservation and Development

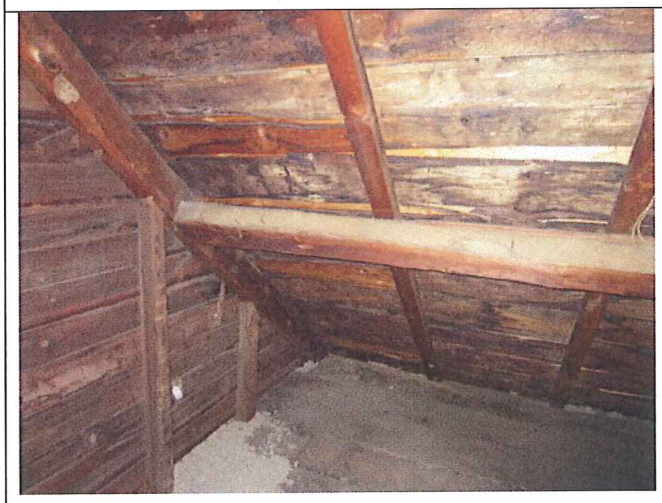
By:
Coldham and Hartman Architects
49 South Pleasant Street
Amherst MA 01002

June 19th 2012

	Exterior of the house from East Pleasant Street
	Exterior of house from inside the site looking up toward East Pleasant Street. The "Ell" is in the foreground
	Exterior of the north side of the house and "Ell"

	One of the two existing kitchen spaces
	The interior of the second floor south-west room. The tapered "gun-stock" molding in the corners reflects the tapered frame post behind. The taper accommodates a wider bearing area at the top for the multiple beam intersection
	Interior of a first floor room

	Interior of the first floor south-west room. The fake brick panel shows where the original fireplace and chimney (along with the original stair) have been removed
	The central stair — not original
	The central stair — not original — where it arrives at the second floor

	The existing roof structure — showing the primary rafter supporting purlins to either side, which in turn support the tertiary rafters. All of this original structure can remain exposed in the attic of the renovated building with the retrofit procedure recommended in the study report
	The connection of the purlins to the primary rafter. The purlins are tenoned through mortice holes cur through the center of the primary rafter
	Roof structure at the gable end wall

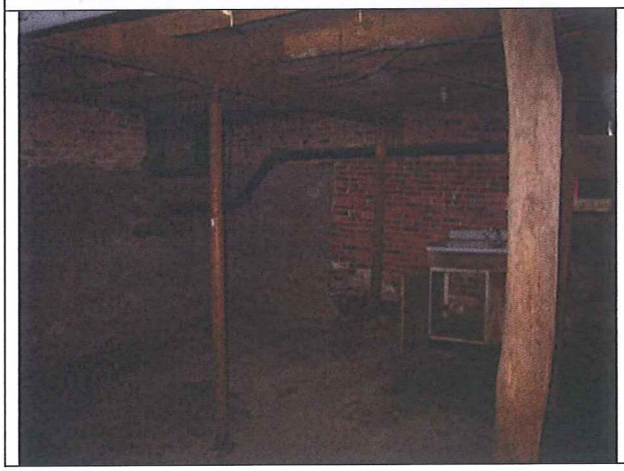
Connection of the primary rafter to the perimeter plate/beam. The image shows the ceiling joists as well — along with what looks like corn-cob insulation.

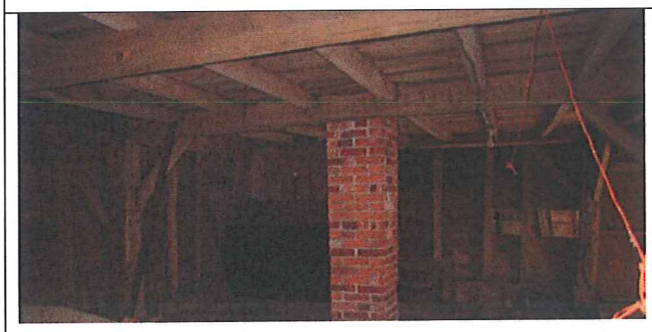
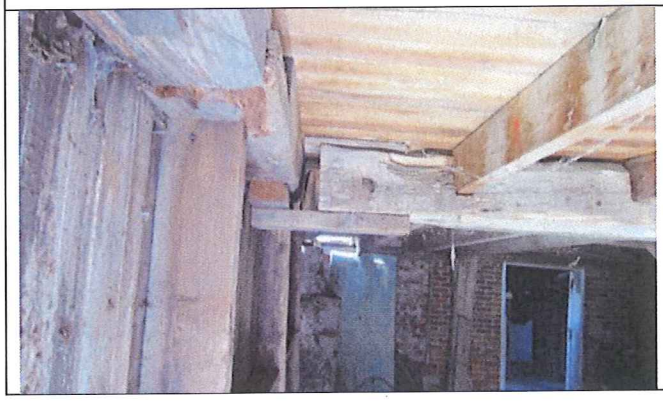
For the most part though, the insulation is recently installed dense packed cellulose

Junction of the tertiary rafters at the ridge. They are pegged

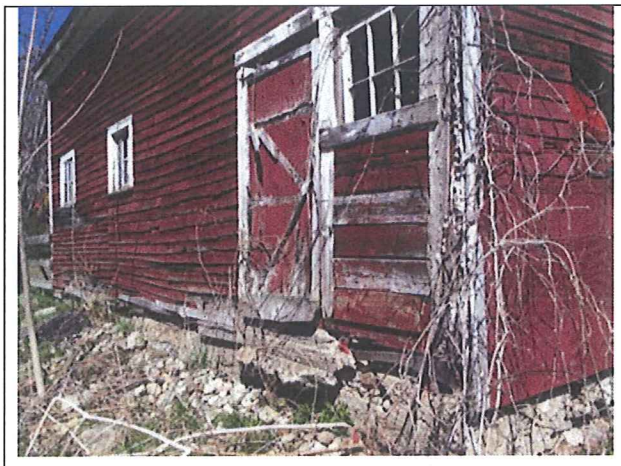
The primary evidence of the very early nature of this timber frame — each of the tertiary rafters are uniquely "scribed" indicating that each ahs been uniquely cut to match a complementary partner

(For more information see Appendix C — the report by Bonnie Parsons on this historic framing technique)

	The foundation under the existing house. Note the apparent undermining of the brick foundation wall. Note the confusion of brick, concrete, and stone rubble
	The foundation under the house
	The foundation and first floor structure below the house. Again, note the confusion of brick, concrete, and stone rubble

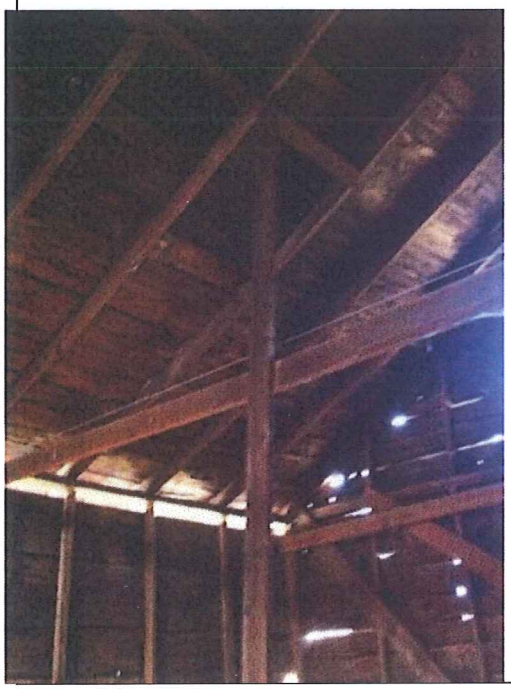
	The first floor structural joists that have been severely degraded.
	The first floor structure below the "Ell".
	The foundation structure below the "Ell".
	The first floor structure below the "Ell". Note that the primary beam does not make it to the post/beam that is supposed to supporting it (Bit of a mystery as to how that porch above is still able to support itself)

	The barn from the south
	The barn "foundation wall"
	The barn "foundation wall"



The barn "foundation wall" on the east side.

The rotten sill on the north side



The interior structure of the barn.

Note the 2 x 6 central post (one of four) supports a flat board that only picks up some of the rafters.

Note the diagonal "bracing" boards on the far side that do not complete any triangulated stiffening pattern

Note the extremely wide spacing of the wall studs and rafters